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## **Public food systems strategies to protect environment, soil and groundwater - the case of organic food in Copenhagen**

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**Public food systems strategies to protect environment,  
soil and groundwater - the case of organic food in Copenhagen  
Bent Egberg Mikkelsen  
National Food Institute, Danish Technical University (Denmark).**

Summary of paper to the “Agua y Alimento Sostenible”  
seminar 4th of July 2008, Expo Zaragoza 2008

There is increasing focus on the role that public food procurement and institutional food service can play in promoting sustainable production and consumption. Many metropolitan areas adopt strategies that include initiatives involving public kitchens and food procurement offices. In a number of countries sustainability policies have been launched aiming at increasing the volume organic foods in the public. Denmark is one of them. Public policies supporting the use of organic foods in the public sector has been around for a decade and municipalities has taken cornet actions aiming at increasing the share of organic and sustainable foods in food service Copenhagen is one of them and protection of soil and ground water plays an important role in this strategy. The aim of this paper is to present this case and demonstrate how public food systems can integrate organic foods in the public food service supply chain. The municipality aims at reaching a level where food consumption in public institutions is 75% organic and this goal is pursued through the participation in the Dogme network. Civil servants and catering professionals from the different Dogme municipalities work together in a network on Organic Food and aims at strengthening the inter-municipal cooperation on conversion into organic food through information and knowledge-sharing. The paper presents concrete examples of the constraints and opportunities in this type of strategy as well as some concrete tools for monitoring the progress through the use of metrics

# **“Agua y Alimento Sostenible”**

## **4 de julio**

### **-Expo Zaragoza 2008-**

#### **Experiencias de restauración colectiva sostenible:**

**Bent Egberg Mikkelsen  
Científico Senior, National Food Institute  
Danish Technical University (Denmark).**

**National Food Institute**



# Organic public meals: why

## Sources of drinking water in Copenhagen



Source: Dogme CPH secretariat

# Drinking water

## threatened by pesticides

- Most groundwater in CPH undrinkable
- From nature (too salty) as a result of industry
- Collected north of city and transported in tubes
- Since 1980 KE closed 74 ud af i alt 755 grundvandsboringer (10%)
- Pollution due to chemicals and oil residues from industry and waste deposits
- Pesticide pollution increasingly a problem
- Since mid 900 ties 45 wells closed due to pesticides
- Campaigns have helped reducing the consumption by no less than 43 litres/day/inhabitant from 1989 till 2002.

# Where is Dogme?



# What is Dogme 2000



- Dogme 2000 is a close and committed environmental cooperation
- The municipalities keep each other to commitments in concrete areas for effort and targets.
- The following municipalities are members of the cooperation:
  - Albertslund
  - Ballerup,
  - Fredericia
  - Herning
  - Kolding
  - Copenhagen
  - Malmø.

# The three dogmas

- Human impacts on the environment must be measured
- A plan for improvement of the environment must be established:  
Agenda 21
- The environment work must be anchored locally



# Organic food in kitchens

## – a key point in the Dogme network

- Food consumption in public institutions must become 75% organic
- Target in Agenda 21 plan for Copenhagen: 75 % of the food served in the City's kitchens and canteens must become organic by the end of 2008
- The Dogme municipalities work to achieve this target in public kitchens,
- Intermediaries are civil servants and catering professionals
- Intermediaries from Dogme municipalities cooperate in the working group on Organic Food.
- Since 2002 the group has played the role of cooperation forum for conversion into organic food in public kitchens.
- The purpose of the working group is to strengthen the intermunicipal cooperation on conversion into organic food through information and knowledge-sharing.

# Knowledge-sharing

- Work on barriers in kitchens
- Work on barriers in administration
  - economic issues
  - procurement agreements.
- Works establishes concrete task froces when needed
- Collects data about resources allocated for the conversion process
- Monitor the amount of organic foods

# Experiences 1

- Extra efforts required to attain good response rates for the electronic stocktaking of organic food.
- Best response is attained by inspiring both management and kitchen staff to local change approaches on work routines.
- Politicians and administrations must continuously support the work.
- Inspirational material important
  - Lectures
  - Tasting
  - Study tours to organic enterprises and farms
  - Visits to best practice institutions
  - Culinary improvement
  - Nutritional check-up

# Experiences 2

- Factors for motivation differ between the kitchens.
  - environment
  - animal welfare
  - taste
  - health
  - clean drinking water
  - food quality
- Most municipalities offer training and catering consultancy to a varying extent to support the kitchens and institutions in the conversion
- Central procurement agreements ensuring accessibility of organic food are crucial

# Education and capacity building



- Buy fruits and vegetables of the season
- Use more vegetables and more bread
- Use more basic food: oats, pasta, rice, beans and lentils
- Use less meat or alternative cutouts
- Choose other recipes with vegetables and basic food
- Give the menu plan a critical revision and renewal
- Increase the culinary level
- Use procurement contracts
- Reduce food waste
- Manage economy carefully

# Progress in CPH

- Copenhagen has approx 1200 institutions
- Day-care centres
- 24-hour care centres
- Canteens
- Residential homes
- Schools



## Implications of findings

- Importance of school **food being more than just food** when the schools **couple practice** in the **school tuck shop** with **theory** in the classroom.
- The school **has a potential** as a forum for **communicating knowledge** about **health and consumerism** in a way that students **experience a sense of coherence** between these factors.



# Findings from fronstage interviews

- General demand amongst the pupils for a specific subject in which topics relating to environment and ecology are in focus.
- Especially pupils from the 5th class express a wish for more education about organic food & farming.
- Study indicates that the majority of pupils have a general understanding of the word organic.
- Knowledge derives from the home and TV-broadcasts
- Not from the school.)
- Generally answer "yes" when asked if they will buy organic foods when they move away from home.
- In most cases they have a knowledge of why the food in the Tuck shop is organic
- Students don't feel that they are included in the decision-making regarding the introduction of an organic food supply in the school.
- Among older pupils the KØSS food is perceived as bland and expensive
- Tendency for the older pupils to buy their food outside of the school

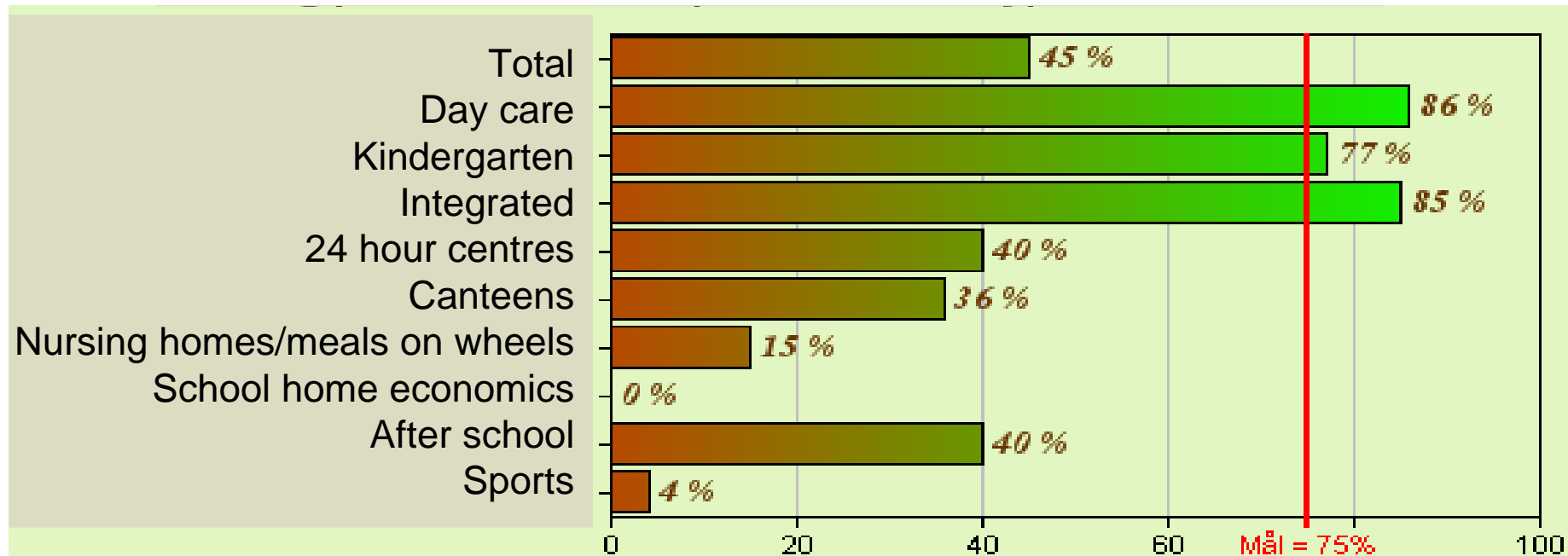


# Facts

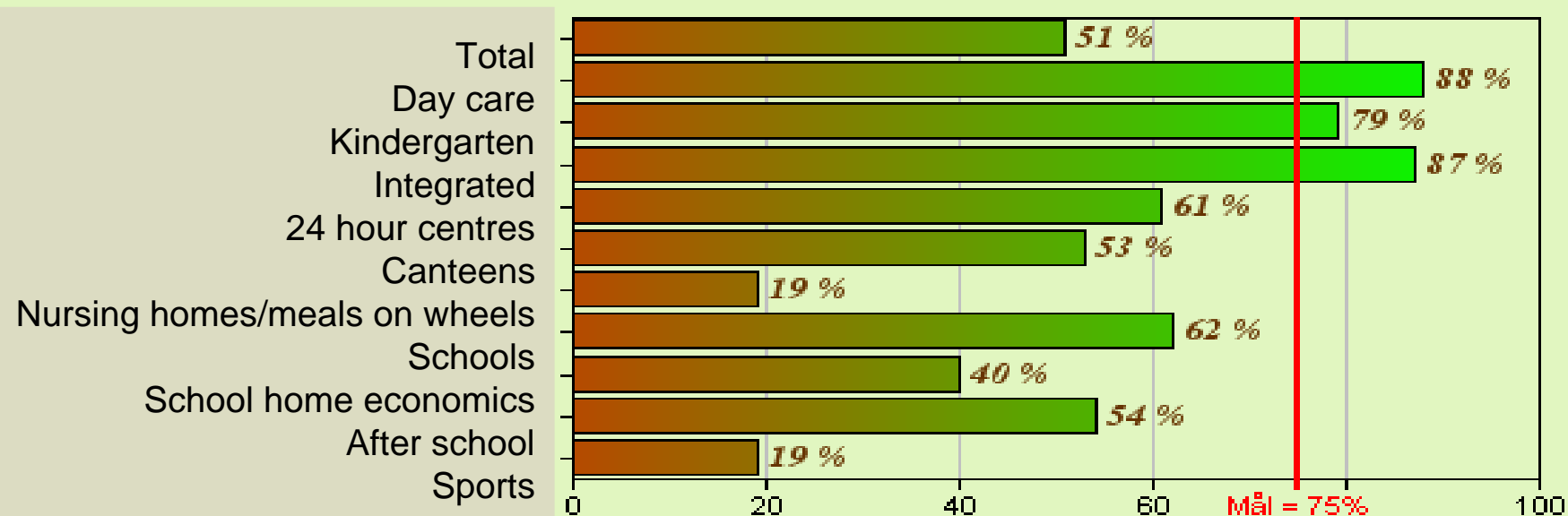
- The City of Copenhagen spends about €25 million on foodstuff on a yearly basis.
- A clear signal to the citizens = active food citizenship when the City claims to be a “locomotive” for the development on the environment area.
- An important quality for the project is the aim to make organic food within the existing food budgets.
- Expenses are not necessarily higher when making organic food, if work routines and food habits are changed in the same run.

# Different catering types

- **Day-care centres**
  - 255 out of the 534 day-care centres in the City of Copenhagen reorganized to organic food. Now serve 84 percent organic food.
- **24-hour care centres**
  - 41 out of the city's total of 75 24-hour care centres. Now serve food, which are 79 percent organic.
- **Canteens and community centres**
  - First 14 out of the city's total of 53 canteens and community centres reorganized. Share of 60 percent organic food.
- **Residential homes**
  - 15 of the city's 38 residential homes food are reorganized to 55 percent organic food.
- **Schools**
  - In 49 out of 64 of the city's primary and lower-secondary schools it is now possible to buy a healthy lunch from school booths. The lunch served is at least 50 percent organic.



i 2007





# Example:

## Calculate your pesticide reduction

- Impact on aquatic environment if you buy organic instead of conventional

Test how much money you can save for pesticide residues by buying organic potatoes

Enter number of kilos/week in the box

Result showed as pesticide protected m<sup>2</sup>, pesticide reduction pr year and fertilizer reduction pr year

- **Your weekly potato-consumption: \_\_\_\_kg**

Consumption pr week:  
100 kg

Consumption pr. year:  
5200 kg

Pesticide reduction pr  
year: 2,77 kg

Fertilizer reduction pr  
year: 519,92 kg

Areal omkost: 2735,20  
m<sup>2</sup>

**Badminton fields: 33,5**

<b>Food group</b>	<b>Recommended based on NNR</b>	<b>What danes normally eat based on dietary survey</b>	<b>How often du you buy organic foods from this group</b>
Fruit	17,10%	19,50%	
Vegetables	17,10%	11,90%	
Potato	14,20%	9,10%	
Milk	28,50%	25,90%	
Cheese	1,40%	2,30%	
Meat	4%	10,20%	
Egg	1,40%	1,40%	
Butter, oil og margarine	1,70%	3,30%	
Bread/Grits	12,80%	15%	
Fish	1,70%	1,40%	
<b>In all</b>	<b>100%</b>	<b>100%</b>	

# Monitoring

- Stock is taken annually of the share of organic foods (1,575 kitchens).
- Carried out electronically. Data entered through the Dogme website.
- Results published in the green accounts of the municipalities and on the Dogme website.
- The monitoring method was drawn used for the first time in January 2006.
- Tested, revised and re-tested
- Second stocktaking was carried out in January 2007.
- Rate of organic food is measured in kilos net weight of food
- Assumed to give the best picture of the amount of organic food procured.
- Strengths: short time required from the kitchen staff to calculate the rate of organic food.
- Useful for comparisons between institutions, administrations or municipalities or from one year to the next
- Weakness: rests on estimates and not exact data.

# Monitoring is important

- If organic foods is the policy, then detailed monitoring at local and national level is essential
- In that case effective and recognised monitoring tools are needed local and national level



# How to monitor?

## Developing a metric

Measuring sustainability											
% and kg											
Periode:	TOTAL	Kon.	Øko.	Dyr.	Soc.	Kon.	Øko.	Dyr.	Soc.	Samlet	
1. kvartal 2005	Kg	Kg	Kg	Kg	Kg	%	%	%	%	%	
Drikkemælk (inkl cacao)	76.820	837	75.983	-	-	1%	99%	99%	0%	99%	
Andre mejeriprodukter	17.474	9.045	8.429	-	-	52%	44%	44%	0%	48%	
<b>Milk products</b>	<b>94.293</b>	<b>9.882</b>	<b>84.412</b>	-	-	<b>10%</b>	<b>89%</b>	<b>89%</b>	<b>0%</b>	<b>90%</b>	
<b>Cheese</b>	<b>8.286</b>	<b>4.067</b>	<b>4.219</b>	-	-	<b>49%</b>	<b>48%</b>	<b>48%</b>	<b>0%</b>	<b>51%</b>	
<b>Eggs</b>	<b>4.742</b>	<b>4.742</b>	-	-	-	<b>100%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	
Hvidt brød	9.443	1.563	7.880	-	-	17%	83%	0%	0%	83%	
Rugbrød	9.013	1.178	7.835	-	-	13%	87%	0%	0%	87%	
Frosne brød og kager	3.528	3.528	-	-	-	100%	0%	0%	0%	0%	
Kiks og kager	1.988	1.748	240	-	-	88%	9%	0%	0%	12%	
Mel og gryn	5.430	941	4.489	-	-	17%	83%	0%	0%	83%	
Ris og pasta	1.086	156	930	-	-	14%	86%	0%	0%	86%	
Sukker	4.100	3.280	820	-	-	80%	11%	0%	0%	20%	
Krydderier	500	500	-	-	-	100%	0%	0%	0%	0%	
Diverse og færdigrette	13.068	13.045	23	-	-	100%	0%	0%	0%	0%	
<b>Dry foods</b>	<b>48.155</b>	<b>25.939</b>	<b>22.216</b>	-	-	<b>54%</b>	<b>45%</b>	<b>0%</b>	<b>0%</b>	<b>46%</b>	

Source: Carlsen, AB: HealthCat seminar April 25 2006, Copenhagen

# Conclusion

- Easy results have been 'creamed off'
- Anchoring of idea important
- Monitoring important
- Networks and public food system thinking important
- Evidence and research cooperation important
- Competing agendas must be addressed
- Large institutions difficult

# More info

- Dogme
- <http://www.miljoe.kk.dk/31FE6874-57C3-4046-BF58-878B7C0D6F75>
- [http://www.dogme2000.dk/billeder/Håndbog/dogme2000haandbog\\_uk.pdf](http://www.dogme2000.dk/billeder/Håndbog/dogme2000haandbog_uk.pdf)
- DTU
- <http://www.food.dtu.dk/Default.aspx?ID=21172>
- **iPOPY** (innovative Public Organic food Procurement for Youth)
- <http://www.ipopy.coreportal.org>



# **Thanks for your attention and to colleagues & coworkers**

Chen He

Sofie Husby

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